

Confidentiality Requested:

Yes  No

**KANSAS CORPORATION COMMISSION  
OIL & GAS CONSERVATION DIVISION**

Form ACO-1

January 2018

**Form must be Typed**

**Form must be Signed**

**All blanks must be Filled**

**WELL COMPLETION FORM  
WELL HISTORY - DESCRIPTION OF WELL & LEASE**

OPERATOR: License # \_\_\_\_\_

Name: \_\_\_\_\_

Address 1: \_\_\_\_\_

Address 2: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_ + \_\_\_\_\_

Contact Person: \_\_\_\_\_

Phone: ( \_\_\_\_\_ ) \_\_\_\_\_

CONTRACTOR: License # \_\_\_\_\_

Name: \_\_\_\_\_

Wellsite Geologist: \_\_\_\_\_

Purchaser: \_\_\_\_\_

Designate Type of Completion:

New Well  Re-Entry  Workover

Oil  WSW  SWD

Gas  DH  EOR

OG  GSW

CM (Coal Bed Methane)

Cathodic  Other (Core, Expl., etc.): \_\_\_\_\_

If Workover/Re-entry: Old Well Info as follows:

Operator: \_\_\_\_\_

Well Name: \_\_\_\_\_

Original Comp. Date: \_\_\_\_\_ Original Total Depth: \_\_\_\_\_

Deepening  Re-perf.  Conv. to EOR  Conv. to SWD

Plug Back  Liner  Conv. to GSW  Conv. to Producer

Commingled Permit #: \_\_\_\_\_

Dual Completion Permit #: \_\_\_\_\_

SWD Permit #: \_\_\_\_\_

EOR Permit #: \_\_\_\_\_

GSW Permit #: \_\_\_\_\_

Spud Date or Date Reached TD Completion Date or Recompletion Date

API No.: \_\_\_\_\_

Spot Description: \_\_\_\_\_

\_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_ Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West

\_\_\_\_\_ Feet from  North /  South Line of Section

\_\_\_\_\_ Feet from  East /  West Line of Section

Footages Calculated from Nearest Outside Section Corner:

NE  NW  SE  SW

GPS Location: Lat: \_\_\_\_\_, Long: \_\_\_\_\_  
(e.g. xx.xxxxx) (e.g. -xxx.xxxxx)

Datum:  NAD27  NAD83  WGS84

County: \_\_\_\_\_

Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

Field Name: \_\_\_\_\_

Producing Formation: \_\_\_\_\_

Elevation: Ground: \_\_\_\_\_ Kelly Bushing: \_\_\_\_\_

Total Vertical Depth: \_\_\_\_\_ Plug Back Total Depth: \_\_\_\_\_

Amount of Surface Pipe Set and Cemented at: \_\_\_\_\_ Feet

Multiple Stage Cementing Collar Used?  Yes  No

If yes, show depth set: \_\_\_\_\_ Feet

If Alternate II completion, cement circulated from: \_\_\_\_\_

feet depth to: \_\_\_\_\_ w/ \_\_\_\_\_ sx cmt.

**Drilling Fluid Management Plan**

*(Data must be collected from the Reserve Pit)*

Chloride content: \_\_\_\_\_ ppm Fluid volume: \_\_\_\_\_ bbls

Dewatering method used: \_\_\_\_\_

Location of fluid disposal if hauled offsite:

Operator Name: \_\_\_\_\_

Lease Name: \_\_\_\_\_ License #: \_\_\_\_\_

Quarter \_\_\_\_\_ Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West

County: \_\_\_\_\_ Permit #: \_\_\_\_\_

**AFFIDAVIT**

I am the affiant and I hereby certify that all requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

Submitted Electronically

**KCC Office Use ONLY**

Confidentiality Requested

Date: \_\_\_\_\_

Confidential Release Date: \_\_\_\_\_

Wireline Log Received  Drill Stem Tests Received

Geologist Report / Mud Logs Received

UIC Distribution

ALT  I  II  III Approved by: \_\_\_\_\_ Date: \_\_\_\_\_

Operator Name: \_\_\_\_\_ Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West County: \_\_\_\_\_

**INSTRUCTIONS:** Show important tops of formations penetrated. Detail all cores. Report all final copies of drill stems tests giving interval tested, time tool open and closed, flowing and shut-in pressures, whether shut-in pressure reached static level, hydrostatic pressures, bottom hole temperature, fluid recovery, and flow rates if gas to surface test, along with final chart(s). Attach extra sheet if more space is needed.

Final Radioactivity Log, Final Logs run to obtain Geophysical Data and Final Electric Logs must be emailed to kcc-well-logs@kcc.ks.gov. Digital electronic log files must be submitted in LAS version 2.0 or newer AND an image file (TIFF or PDF).

Drill Stem Tests Taken <input type="checkbox"/> Yes <input type="checkbox"/> No <i>(Attach Additional Sheets)</i>  Samples Sent to Geological Survey <input type="checkbox"/> Yes <input type="checkbox"/> No  Cores Taken <input type="checkbox"/> Yes <input type="checkbox"/> No Electric Log Run <input type="checkbox"/> Yes <input type="checkbox"/> No Geologist Report / Mud Logs <input type="checkbox"/> Yes <input type="checkbox"/> No List All E. Logs Run: _____	<input type="checkbox"/> Log Formation (Top), Depth and Datum <input type="checkbox"/> Sample  Name Top Datum
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CASING RECORD <input type="checkbox"/> New <input type="checkbox"/> Used							
Report all strings set-conductor, surface, intermediate, production, etc.							
Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives

ADDITIONAL CEMENTING / SQUEEZE RECORD				
Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
<input type="checkbox"/> Perforate <input type="checkbox"/> Protect Casing <input type="checkbox"/> Plug Back TD <input type="checkbox"/> Plug Off Zone				

1. Did you perform a hydraulic fracturing treatment on this well?  Yes  No *(If No, skip questions 2 and 3)*
2. Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons?  Yes  No *(If No, skip question 3)*
3. Was the hydraulic fracturing treatment information submitted to the chemical disclosure registry?  Yes  No *(If No, fill out Page Three of the ACO-1)*

Date of first Production/Injection or Resumed Production/Injection:	Producing Method: <input type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other <i>(Explain)</i> _____				
Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity

DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5) (Submit ACO-4)</i>	PRODUCTION INTERVAL: Top _____ Bottom _____
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Shots Per Foot	Perforation Top	Perforation Bottom	Bridge Plug Type	Bridge Plug Set At	Acid, Fracture, Shot, Cementing Squeeze Record <i>(Amount and Kind of Material Used)</i>

TUBING RECORD:	Size:	Set At:	Packer At:	
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Form	ACO1 - Well Completion
Operator	Murfin Drilling Co., Inc.
Well Name	CAROLYN 'B' 1-19
Doc ID	1367259

All Electric Logs Run

DIL
DUCP
MEL
BHCS



MDCI  
 Carolyn 'B' #1-19  
 330' FSL 405' FWL  
 Sec. 19-T1S-R36W  
 3326' KB

Formation	Sample top	Datum	Ref	Log Top	Datum	Ref
Anhydrite	3228	+98	-8	3230	+96	-10
B/Anhydrite	3264	+62	-8	3263	+63	-7
Neva	3703	-377	-9	3704	-378	-10
Red Eagle	3771	-445	-12	3770	-444	-11
Foraker	3815	-489	-8	3820	-494	-13
Stotler	3970	-644	-8	3971	-645	-9
Topeka	4049	-723	-13	4041	-715	-5
Oread	4172	-846	-7	4177	-851	-12
Lansing	4256	-930	-9	4260	-934	-13
Stark	4477	-1151	-14	4478	-1152	-15
Mound City	4527	-1201	-10	4532	-1206	-15
Ft Scott	4651	-1325	-16	4655	-1329	-20
Oakley	4737	-1411	-15	4739	-1413	-17
RTD	4820	-1494				
LTD				4823	-1497	



# Robert D. Hendrix

## Petroleum Geologist

### GEOLOGIST'S REPORT

#### DRILLING TIME AND SAMPLE LOG

COMPANY: **Murfin Drilling Company Inc**

LEASE: **Carolyn B # 1 - 19**

FIELD: **Wildcat**

LOCATION: **3307 fsl & 405 fwl**

SEC: **19 TWSP 1S RGE 36W**

COUNTY: **Rawlins State Kansas**

CONTRACTOR: **Murfin Drilling Co. Inc. Rig #3**

SPUD: **7/10/2017 COMP 7/20/2017**

RTD: **4820' LTD 4822'**

MUD UP: **3406' TYPE MUD Chemical**

SAMPLES SAVED FROM: **3590' TO TD**

DRILLING TIME KEPT FROM: **3590' TO TD**

SAMPLES EXAMINED FROM: **3590' TO TD**

GEOLOGICAL SUPERVISION FROM: **3469'**

GEOLOGIST ON WELL: **Robert D. Hendrix**

FORMATION TOPS: **ELECTRIC LOG**

ANHYDRITE: **3230 (+96)**

NEVA: **3704 (-176)**

FORAKER: **3820 (-494)**

OPREAD: **4041 (-715)**

LANSING: **4176 (-850)**

MOUND CITY: **4260 (-934)**

OAKLEY: **4532 (-1202)**

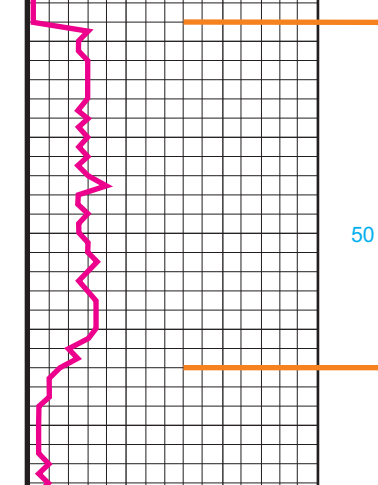
FT SCOTT: **4739 (-1413)**

ELEVATIONS  
KB 3326'

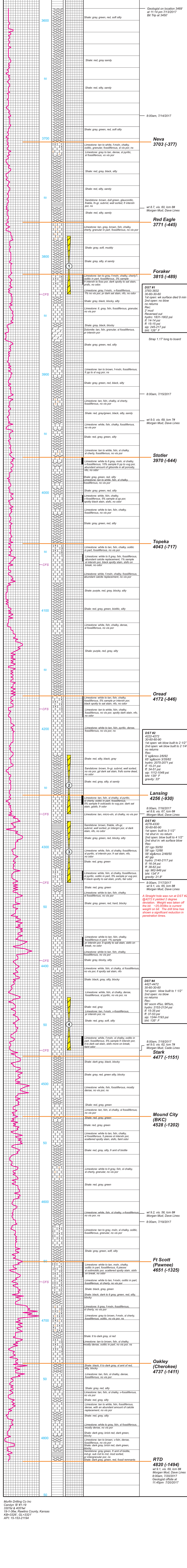
MEASUREMENTS ARE ALL FROM **Kelly Bushing**  
CASING  
CONDUIT: **3.378" at 226'**  
SURFACE: **5.1/2" @ 4813'**  
PRODUCTION: **5.1/2" @ 4813'**

DRILLING TIME KEPT FROM: **3590' TO TD**  
SAMPLES EXAMINED FROM: **3590' TO TD**  
GEOLOGICAL SUPERVISION FROM: **3469'**  
GEOLOGIST ON WELL: **Robert D. Hendrix**

FORMATION TOPS	ELECTRIC LOG	SAMPLE
Anhydrite	3230 (+96)	3228 (+98)
Neva	3704 (-176)	3703 (-177)
Foraker	3820 (-494)	3815 (-489)
Opread	4041 (-715)	4049 (-723)
Lansing	4176 (-850)	4172 (-846)
Mound City	4532 (-1202)	4528 (-1202)
Oakley	4739 (-1413)	4737 (-1411)



REMARKS:



Murfin Drilling Co Inc  
Carolyn B #1-19  
3307fsl & 405fwl  
19-1-36w, Rawlins County, Kansas  
KB=3326' GL=3321'  
API: 15-153-21194



## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co., Inc.**

250 N. Water STE 300  
Wichita, KS 67202

ATTN: Robert Hendrix

### **Carolyn 'B' #1-19**

#### **19-1s-36w Rawlins,KS**

Start Date: 2017.07.14 @ 19:13:00

End Date: 2017.07.15 @ 01:38:45

Job Ticket #: 63327                      DST #: 1

Trilobite Testing, Inc  
1515 Commerce Parkway Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2017.07.20 @ 09:44:06





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

**19-1s-36w Rawlins,KS**

250 N. Water STE 300  
Wichita, KS 67202

**Carolyn 'B' #1-19**

Job Ticket: 63327

**DST#: 1**

ATTN: Robert Hendrix

Test Start: 2017.07.14 @ 19:13:00

## GENERAL INFORMATION:

Formation: **Foraker**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 21:03:15

Time Test Ended: 01:38:45

Test Type: Conventional Bottom Hole (Initial)

Tester: James Winder

Unit No: 83

**Interval: 3783.00 ft (KB) To 3832.00 ft (KB) (TVD)**

Reference Elevations: 3326.00 ft (KB)

Total Depth: 3832.00 ft (KB) (TVD)

3321.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

**Serial #: 6625 Inside**

Press@RunDepth: 15.40 psig @ 3784.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2017.07.14

End Date:

2017.07.15

Last Calib.: 2017.07.15

Start Time: 19:13:05

End Time:

01:38:44

Time On Btm: 2017.07.14 @ 21:02:45

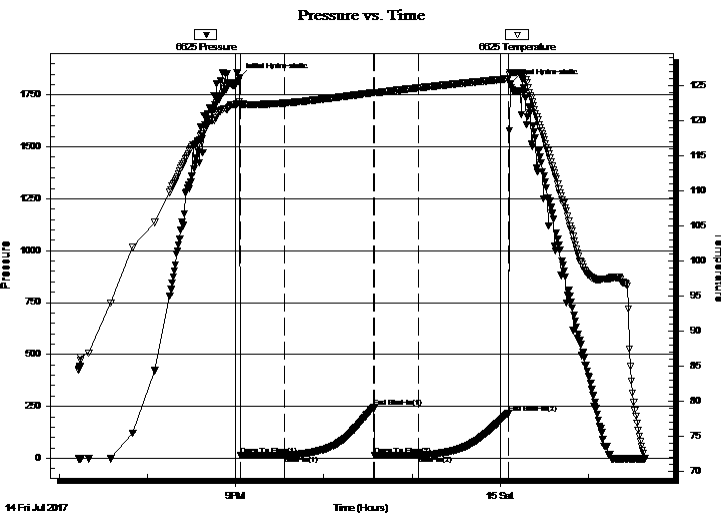
Time Off Btm: 2017.07.15 @ 00:06:45

TEST COMMENT: 30 - IF: Weak surface blow, dead at 9 min.

60 - IS: No blow

30 - FF: No blow

60 - FS: No blow



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1831.34	122.72	Initial Hydro-static
1	13.79	122.43	Open To Flow (1)
31	14.25	122.48	Shut-In(1)
91	245.45	123.97	End Shut-In(1)
92	14.24	123.96	Open To Flow (2)
122	15.40	124.66	Shut-In(2)
183	216.94	125.97	End Shut-In(2)
184	1802.47	126.81	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
2.00	Mud 100%	0.01

## Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)







**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co., Inc.

**19-1s-36w Rawlins,KS**

250 N. Water STE 300  
Wichita, KS 67202

**Carolyn 'B' #1-19**

Job Ticket: 63327

**DST#: 1**

ATTN: Robert Hendrix

Test Start: 2017.07.14 @ 19:13:00

## Tool Information

Drill Pipe:	Length: 3615.00 ft	Diameter: 3.80 inches	Volume: 50.71 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 146.00 ft	Diameter: 2.25 inches	Volume: 0.72 bbl	Weight to Pull Loose: 62000.00 lb
			<u>Total Volume: 51.43 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	7.00 ft			String Weight: Initial 54000.00 lb
Depth to Top Packer:	3783.00 ft			Final 54000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	49.00 ft			
Tool Length:	78.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3755.00	
Shut In Tool	5.00			3760.00	
Hydraulic tool	5.00			3765.00	
Jars	5.00			3770.00	
Safety Joint	3.00			3773.00	
Packer	5.00			3778.00	29.00 Bottom Of Top Packer
Packer	5.00			3783.00	
Stubb	1.00			3784.00	
Recorder	0.00	6625	Inside	3784.00	
Recorder	0.00	8017	Outside	3784.00	
Perforations	10.00			3794.00	
Blank Spacing	33.00			3827.00	
Perforations	2.00			3829.00	
Bullnose	3.00			3832.00	49.00 Bottom Packers & Anchor

**Total Tool Length: 78.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co., Inc.

**19-1s-36w Rawlins,KS**

250 N. Water STE 300  
Wichita, KS 67202

**Carolyn 'B' #1-19**

Job Ticket: 63327

**DST#: 1**

ATTN: Robert Hendrix

Test Start: 2017.07.14 @ 19:13:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 60.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.98 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 600.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
2.00	Mud 100%	0.010

Total Length: 2.00 ft      Total Volume: 0.010 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Serial #: 6625

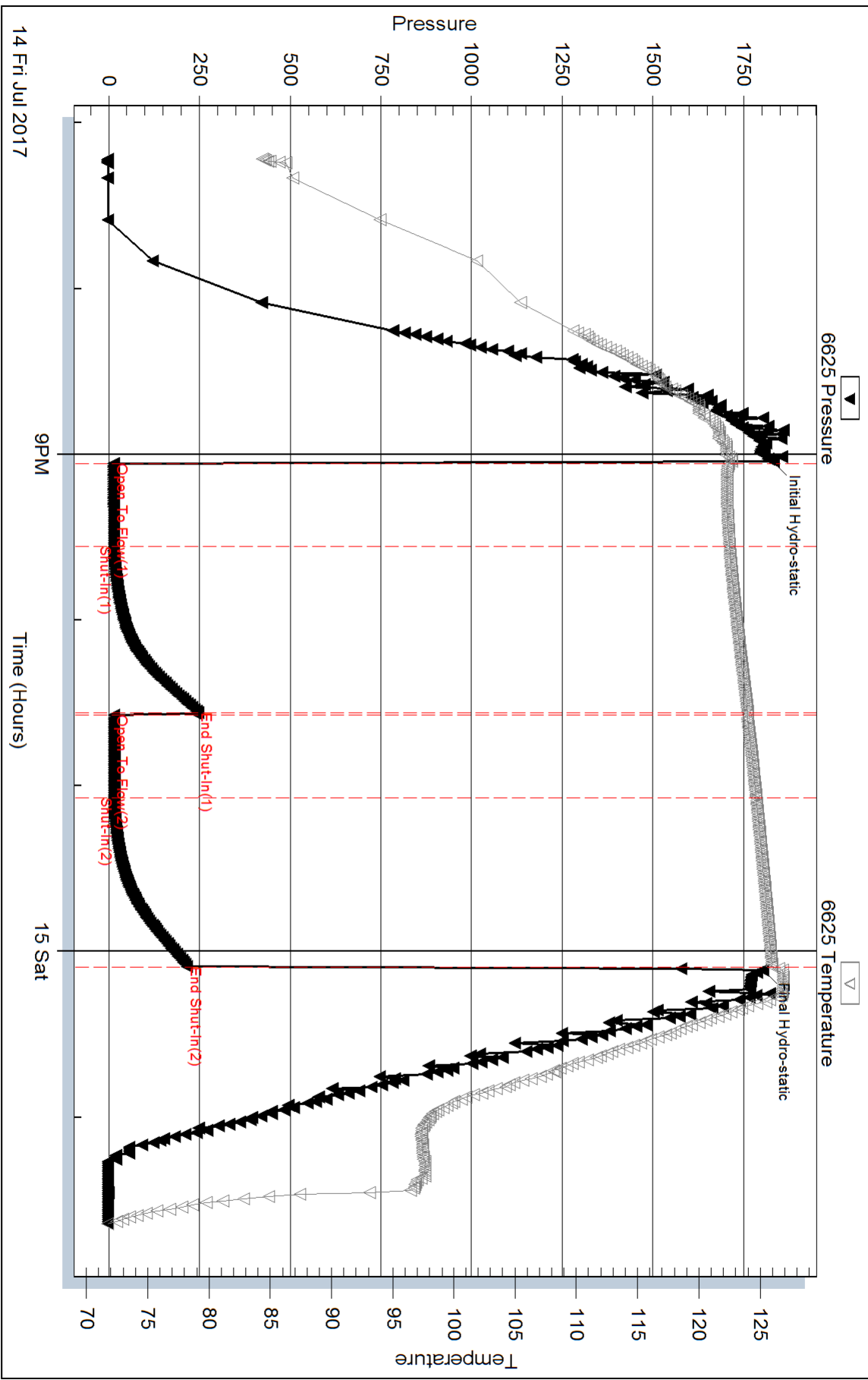
Inside

Murfin Drilling Co., Inc.

Carolyn 'B #1-19

DST Test Number: 1

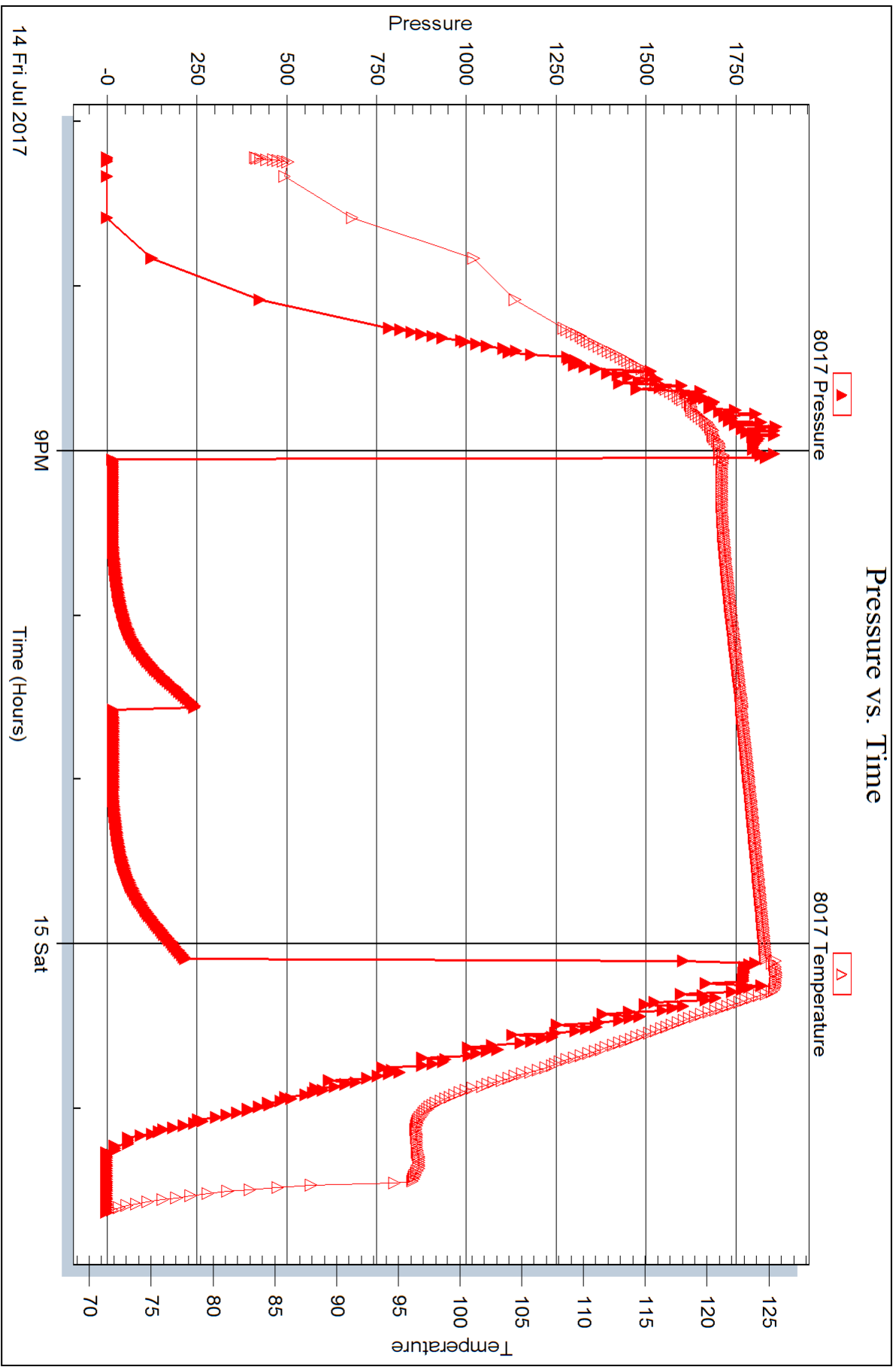
### Pressure vs. Time



Trilobite Testing, Inc

Ref. No: 63327

Printed: 2017.07.20 @ 09:44:07





## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co., Inc.**

250 N. Water STE 300  
Wichita, KS 67202

ATTN: Robert Hendrix

**Carolyn 'B' #1-19**

**19-1s-36w Rawlins,KS**

Start Date: 2017.07.16 @ 10:07:00

End Date: 2017.07.16 @ 17:50:00

Job Ticket #: 63328                      DST #: 2

Trilobite Testing, Inc  
1515 Commerce Parkway Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2017.07.20 @ 09:43:36





**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.  
 250 N. Water STE 300  
 Wichita, KS 67202  
 ATTN: Robert Hendrix

**19-1s-36w Rawlins, KS**  
**Carolyn 'B' #1-19**  
 Job Ticket: 63328 **DST#: 2**  
 Test Start: 2017.07.16 @ 10:07:00

## GENERAL INFORMATION:

Formation: **LKC. "A"**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 11:51:30  
 Time Test Ended: 17:50:00  
 Interval: **4222.00 ft (KB) To 4272.00 ft (KB) (TVD)**  
 Total Depth: 4272.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: James Winder  
 Unit No: 83  
 Reference Elevations: 3326.00 ft (KB)  
 3321.00 ft (CF)  
 KB to GR/CF: 5.00 ft

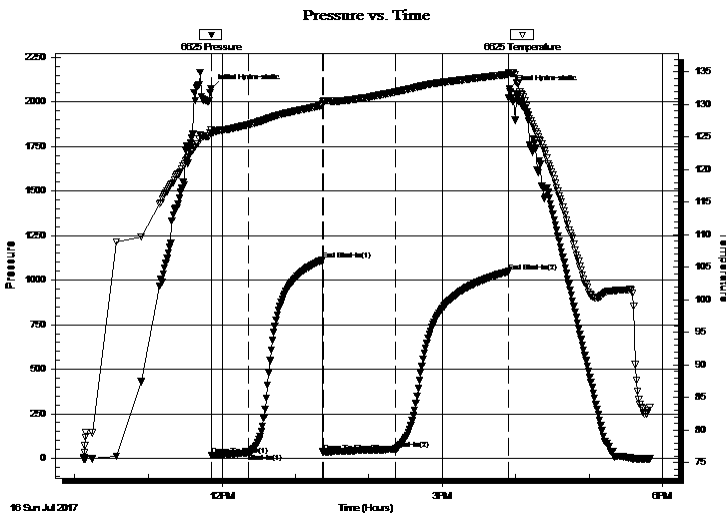
## Serial #: 6625

Inside

Press@RunDepth: 50.80 psig @ 4223.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2017.07.16 End Date: 2017.07.16 Last Calib.: 2017.07.16  
 Start Time: 10:07:05 End Time: 17:49:59 Time On Btm: 2017.07.16 @ 11:51:15  
 Time Off Btm: 2017.07.16 @ 15:54:45

TEST COMMENT: 30 - IF: 1/4" Blow at open, built to 2 1/2"  
 60 - IS: No blow back  
 60 - FF: Blow started at 3 min., built to 2 1/4"  
 90 - FS: No blow back

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2075.14	126.09	Initial Hydro-static
1	15.18	125.72	Open To Flow (1)
31	30.60	126.93	Shut-In(1)
91	1111.98	129.86	End Shut-In(1)
92	34.19	130.42	Open To Flow (2)
151	50.80	131.95	Shut-In(2)
243	1048.23	134.63	End Shut-In(2)
244	2071.35	134.88	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
65.00	OCM 62% <i>m</i> , 35% <i>o</i> , 3% <i>g</i>	0.32
5.00	SMCO 92% <i>o</i> , 6% <i>m</i> , 2% <i>g</i>	0.02

\* Recovery from multiple tests

## Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co., Inc.

**19-1s-36w Rawlins,KS**

250 N. Water STE 300  
Wichita, KS 67202

**Carolyn 'B' #1-19**

Job Ticket: 63328

**DST#: 2**

ATTN: Robert Hendrix

Test Start: 2017.07.16 @ 10:07:00

## Tool Information

Drill Pipe:	Length: 4079.00 ft	Diameter: 3.80 inches	Volume: 57.22 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 146.00 ft	Diameter: 2.25 inches	Volume: 0.72 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 57.94 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	32.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	4222.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	50.00 ft			
Tool Length:	79.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4194.00	
Shut In Tool	5.00			4199.00	
Hydraulic tool	5.00			4204.00	
Jars	5.00			4209.00	
Safety Joint	3.00			4212.00	
Packer	5.00			4217.00	29.00 Bottom Of Top Packer
Packer	5.00			4222.00	
Stubb	1.00			4223.00	
Recorder	0.00	6625	Inside	4223.00	
Recorder	0.00	8017	Outside	4223.00	
Perforations	10.00			4233.00	
Blank Spacing	33.00			4266.00	
Perforations	3.00			4269.00	
Bullnose	3.00			4272.00	50.00 Bottom Packers & Anchor

**Total Tool Length: 79.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co., Inc.

**19-1s-36w Rawlins,KS**

250 N. Water STE 300  
Wichita, KS 67202

**Carolyn 'B' #1-19**

Job Ticket: 63328

**DST#: 2**

ATTN: Robert Hendrix

Test Start: 2017.07.16 @ 10:07:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

33 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 67.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.97 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 600.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
65.00	OCM 62% <i>m</i> , 35% <i>o</i> , 3% <i>g</i>	0.320
5.00	SMCO 92% <i>o</i> , 6% <i>m</i> , 2% <i>g</i>	0.025

Total Length: 70.00 ft      Total Volume: 0.345 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

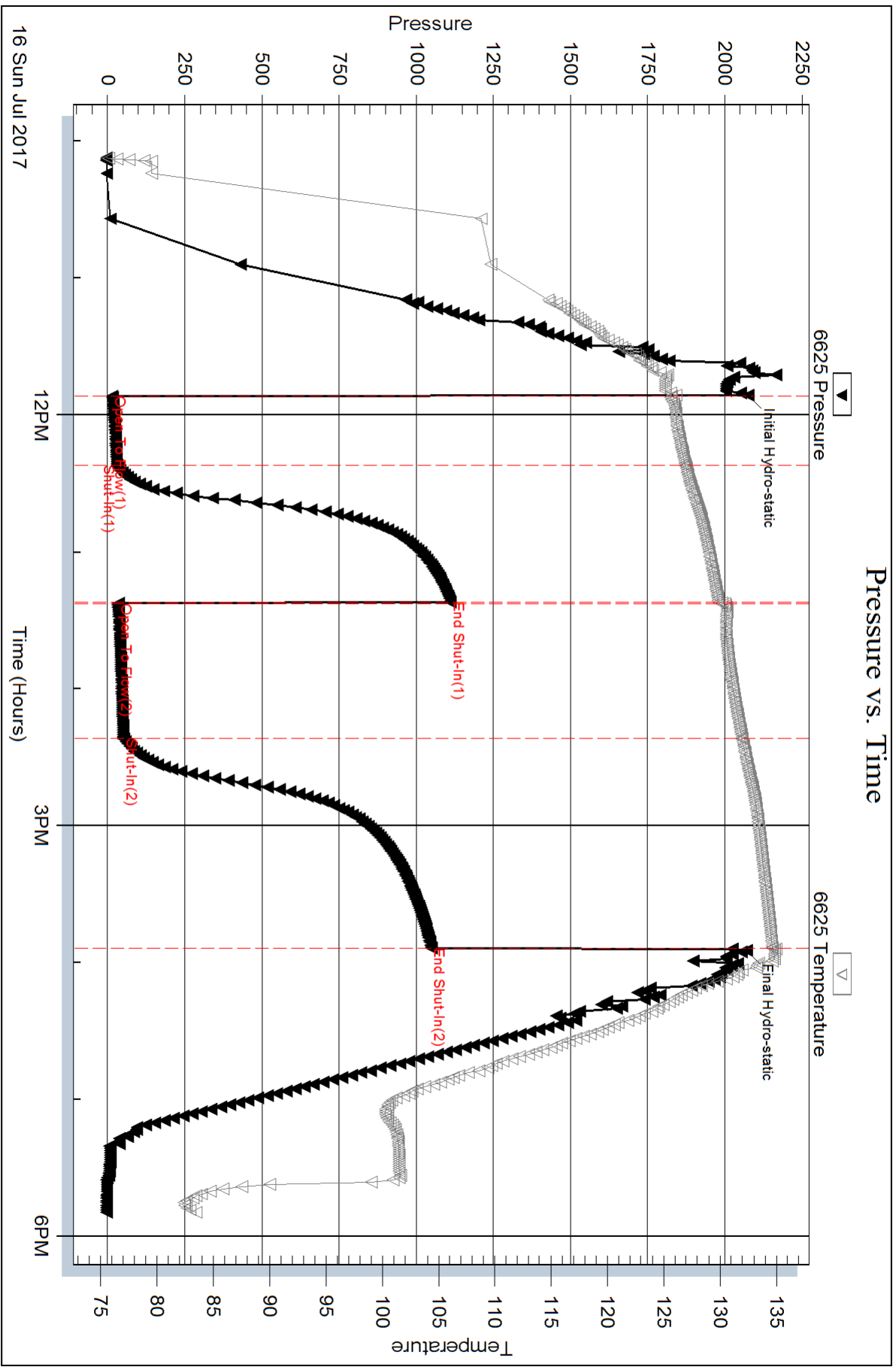
Serial #:

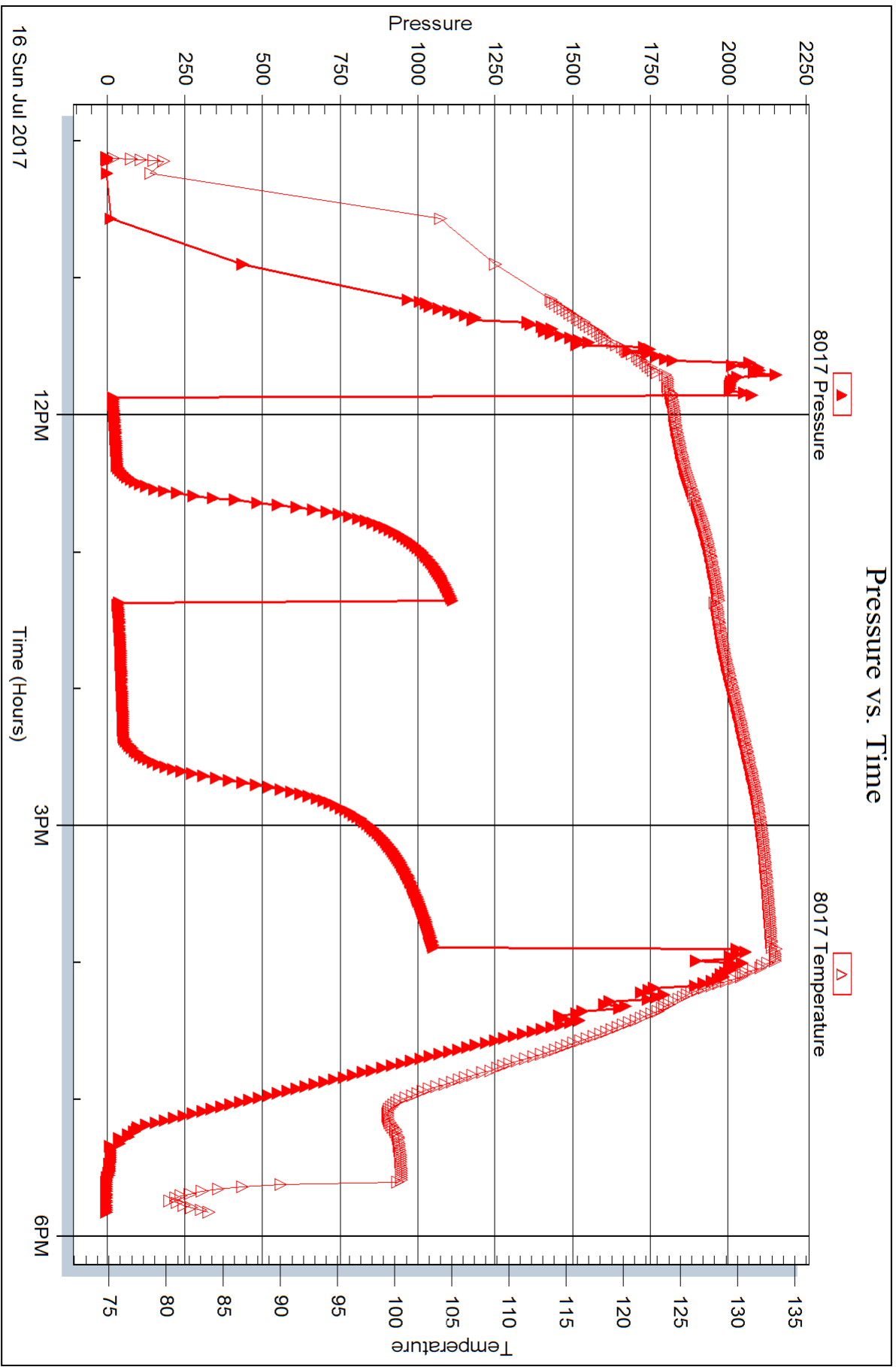
Laboratory Name:

Laboratory Location:

Recovery Comments: Gravity = 36 api @ 90 deg F

Corrected Gravity = 33 api









## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co., Inc.**

250 N. Water STE 300  
Wichita, KS 67202

ATTN: Robert Hendrix

**Carolyn 'B' #1-19**

**19-1s-36w Rawlins,KS**

Start Date: 2017.07.17 @ 04:34:00

End Date: 2017.07.17 @ 12:28:00

Job Ticket #: 63329                      DST #: 3

Trilobite Testing, Inc  
1515 Commerce Parkway Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2017.07.20 @ 09:40:00

Murfin Drilling Co., Inc. 19-1s-36w Rawlins,KS Carolyn 'B' #1-19 DST # 3 LKC "D" 2017.07.17



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

**19-1s-36w Rawlins, KS**

250 N. Water STE 300  
Wichita, KS 67202

**Carolyn 'B' #1-19**

Job Ticket: 63329

**DST#: 3**

ATTN: Robert Hendrix

Test Start: 2017.07.17 @ 04:34:00

## GENERAL INFORMATION:

Formation: **LKC "D"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 06:15:30

Time Test Ended: 12:28:00

Test Type: Conventional Bottom Hole (Reset)

Tester: James Winder

Unit No: 83

**Interval: 4278.00 ft (KB) To 4330.00 ft (KB) (TVD)**

Reference Elevations: 3326.00 ft (KB)

Total Depth: 4330.00 ft (KB) (TVD)

3321.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

**Serial #: 6625**

**Inside**

Press@RunDepth: 62.41 psig @ 4279.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2017.07.17

End Date:

2017.07.17

Last Calib.:

2017.07.17

Start Time: 04:34:05

End Time:

12:27:59

Time On Btm:

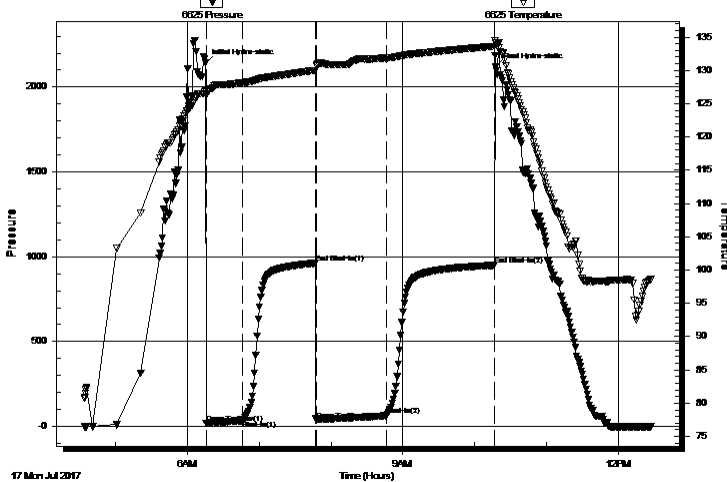
2017.07.17 @ 06:15:15

Time Off Btm:

2017.07.17 @ 10:17:30

**TEST COMMENT:** 30 - IF: 1/4" Blow at open, built to 3 1/2"  
60 - IS: No blow back  
60 - FF: Blow started at 2 min., built to 4 1/2"  
90 - FS: Weak surface blow back, didn't build

Pressure vs. Time



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2140.46	126.88	Initial Hydro-static
1	15.91	126.26	Open To Flow (1)
31	33.94	128.14	Shut-In(1)
92	961.59	130.00	End Shut-In(1)
93	38.09	130.69	Open To Flow (2)
151	62.41	131.86	Shut-In(2)
241	948.91	133.62	End Shut-In(2)
243	2117.09	134.14	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
58.00	MO 50%o, 48% m, 2%g	0.29
58.00	CGO 88%o, 12%g	0.29
20.00	CGO 50%o, 50%g	0.10
0.00	GIP = 40'+	0.00

\* Recovery from multiple tests

## Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co., Inc.

**19-1s-36w Rawlins,KS**

250 N. Water STE 300  
Wichita, KS 67202

**Carolyn 'B' #1-19**

Job Ticket: 63329

**DST#: 3**

ATTN: Robert Hendrix

Test Start: 2017.07.17 @ 04:34:00

## Tool Information

Drill Pipe:	Length: 4111.00 ft	Diameter: 3.80 inches	Volume: 57.67 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 146.00 ft	Diameter: 2.25 inches	Volume: 0.72 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 58.39 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	8.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	4278.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	52.00 ft			
Tool Length:	81.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4250.00	
Shut In Tool	5.00			4255.00	
Hydraulic tool	5.00			4260.00	
Jars	5.00			4265.00	
Safety Joint	3.00			4268.00	
Packer	5.00			4273.00	29.00 Bottom Of Top Packer
Packer	5.00			4278.00	
Stubb	1.00			4279.00	
Recorder	0.00	6625	Inside	4279.00	
Recorder	0.00	8017	Outside	4279.00	
Perforations	10.00			4289.00	
Blank Spacing	33.00			4322.00	
Perforations	5.00			4327.00	
Bullnose	3.00			4330.00	52.00 Bottom Packers & Anchor

**Total Tool Length: 81.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co., Inc.

**19-1s-36w Rawlins,KS**

250 N. Water STE 300  
Wichita, KS 67202

**Carolyn 'B' #1-19**

Job Ticket: 63329

**DST#: 3**

ATTN: Robert Hendrix

Test Start: 2017.07.17 @ 04:34:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

21.8 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 60.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.98 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 600.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
58.00	MO 50%o, 48%m, 2%g	0.285
58.00	CGO 88%o, 12%g	0.285
20.00	CGO 50%o, 50%g	0.098
0.00	GIP = 40'+	0.000

Total Length: 136.00 ft      Total Volume: 0.668 bbl

Num Fluid Samples: 0

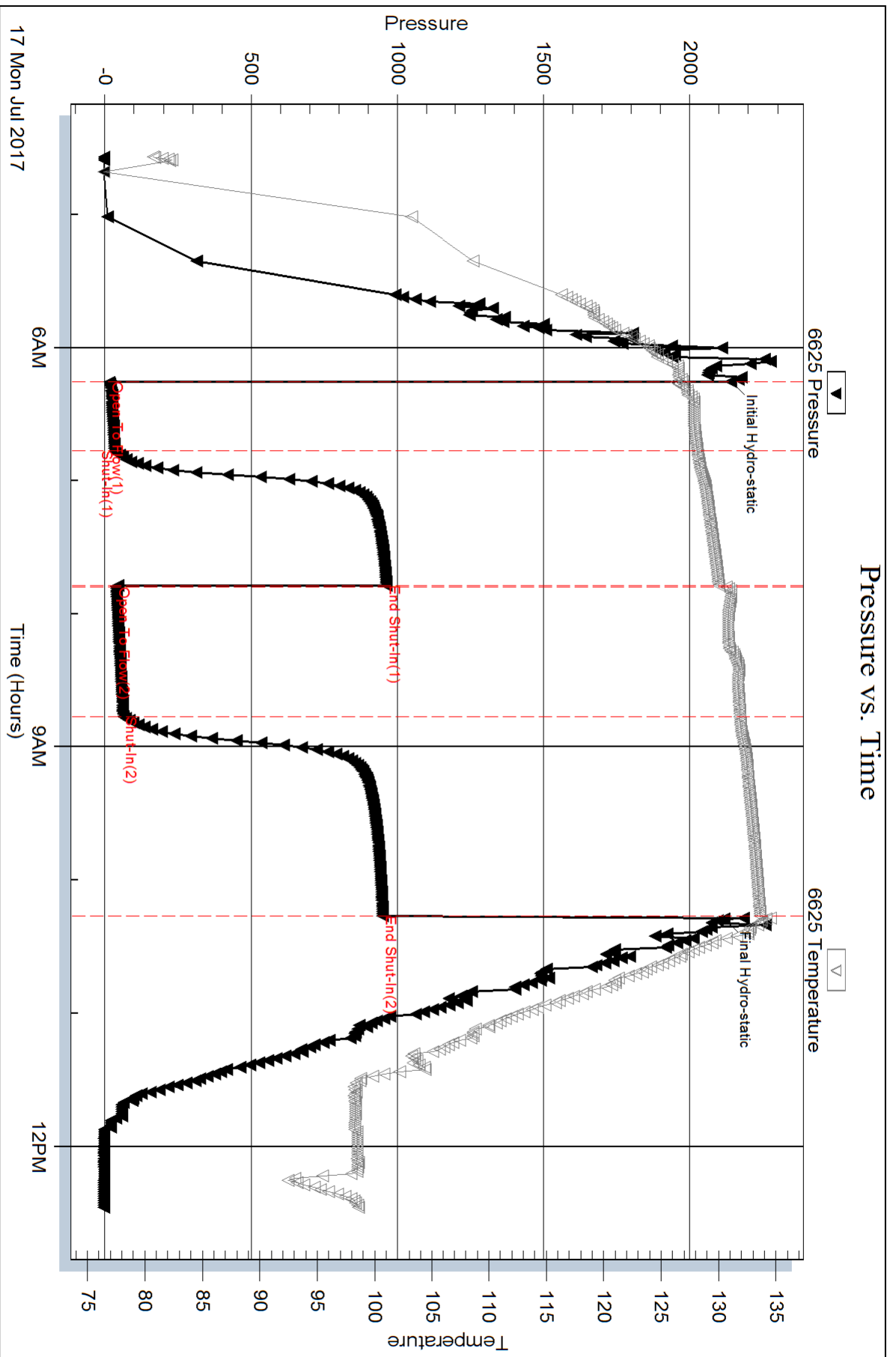
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Gravity = 25.4 api @ 96 deg F  
Corrected Gravity = 21.8 api



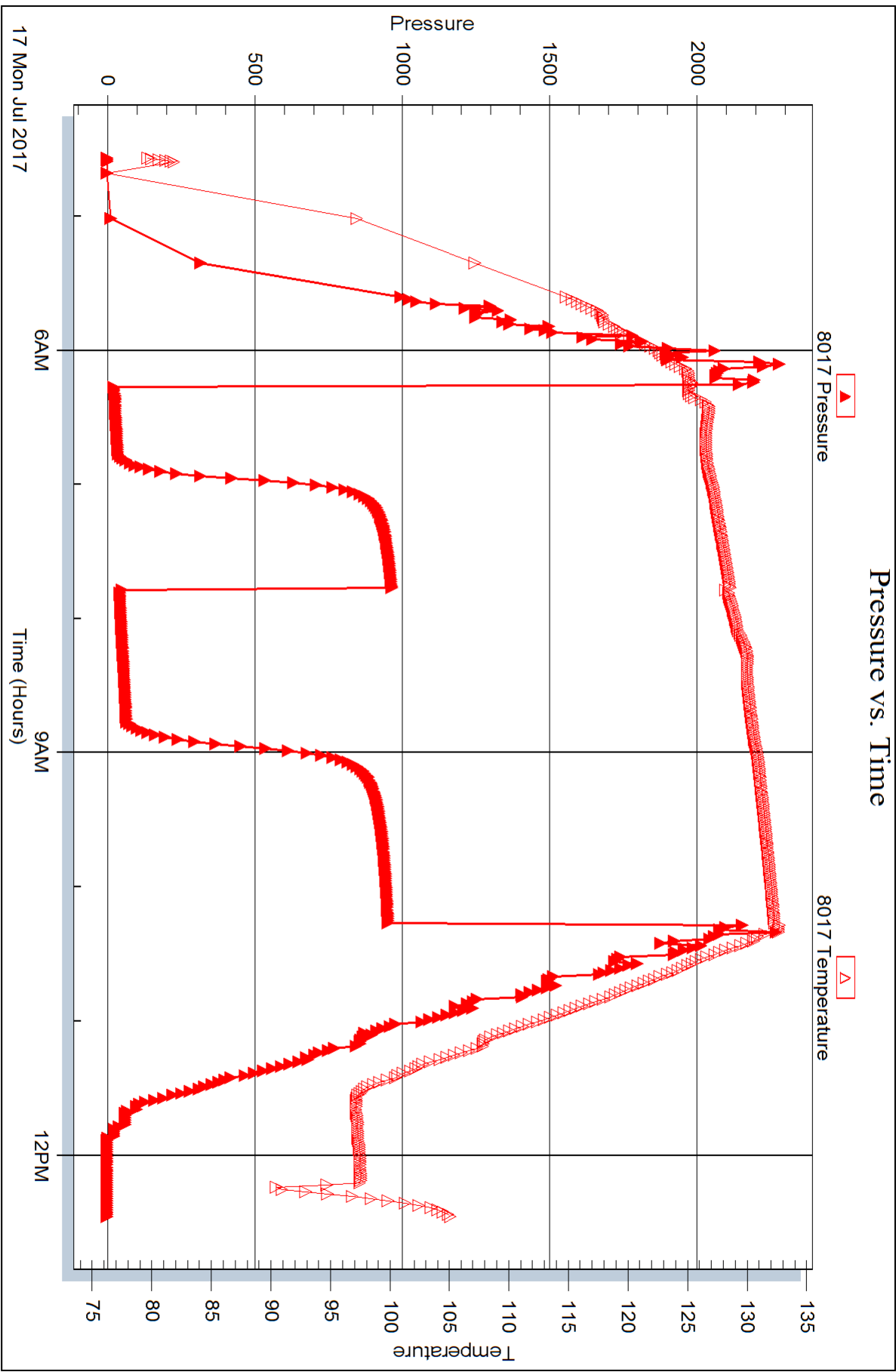


Serial #: 8017

Outside Murfin Drilling Co., Inc.

Carolyn 'B #1-19

DST Test Number: 3





## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co., Inc.**

250 N. Water STE 300  
Wichita, KS 67202

ATTN: Robert Hendrix

### **Carolyn 'B' #1-19**

#### **19-1s-36w Rawlins,KS**

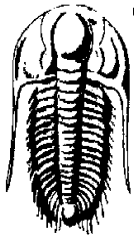
Start Date: 2017.07.18 @ 08:52:00

End Date: 2017.07.18 @ 15:49:15

Job Ticket #: 63330                      DST #: 4

Trilobite Testing, Inc  
1515 Commerce Parkway Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2017.07.20 @ 09:38:20



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

**19-1s-36w Rawlins, KS**

250 N. Water STE 300  
Wichita, KS 67202

**Carolyn 'B' #1-19**

Job Ticket: 63330

**DST#: 4**

ATTN: Robert Hendrix

Test Start: 2017.07.18 @ 08:52:00

## GENERAL INFORMATION:

Formation: **LKC "J"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 10:38:15

Time Test Ended: 15:49:15

Test Type: Conventional Bottom Hole (Reset)

Tester: James Winder

Unit No: 83

**Interval: 4427.00 ft (KB) To 4472.00 ft (KB) (TVD)**

Reference Elevations: 3326.00 ft (KB)

Total Depth: 4472.00 ft (KB) (TVD)

3321.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

**Serial #: 6625 Inside**

Press@RunDepth: 53.70 psig @ 4428.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2017.07.18

End Date:

2017.07.18

Last Calib.: 2017.07.18

Start Time: 08:52:05

End Time:

15:49:14

Time On Btm: 2017.07.18 @ 10:38:00

Time Off Btm: 2017.07.18 @ 13:41:00

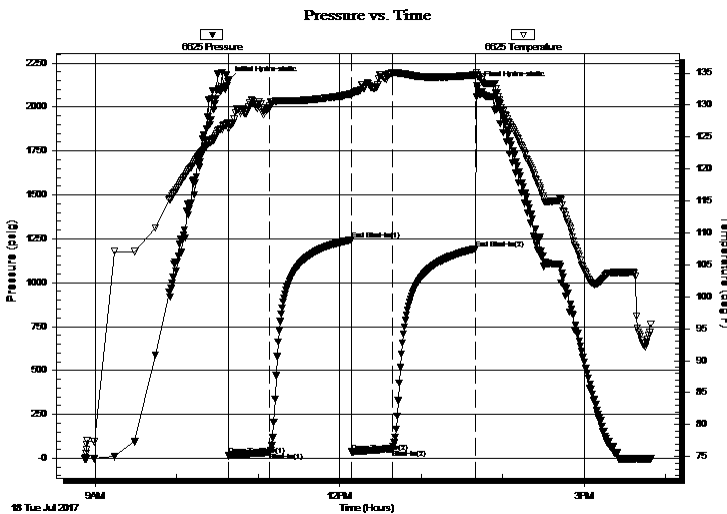
**TEST COMMENT:** 30 - IF: Blow built to 1 1/2"

60 - IS: No blow back

30 - FF: No blow

60 - FS: No blow

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2152.73	127.26	Initial Hydro-static
1	14.72	126.27	Open To Flow (1)
30	34.59	129.53	Shut-In(1)
91	1244.36	131.72	End Shut-In(1)
91	36.72	131.57	Open To Flow (2)
121	53.70	135.01	Shut-In(2)
182	1193.49	134.71	End Shut-In(2)
183	2123.83	134.71	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
90.00	SOCM 96% m, 4% o	0.44

## Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)

\* Recovery from multiple tests





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co., Inc.

**19-1s-36w Rawlins,KS**

250 N. Water STE 300  
Wichita, KS 67202

**Carolyn 'B' #1-19**

Job Ticket: 63330

**DST#: 4**

ATTN: Robert Hendrix

Test Start: 2017.07.18 @ 08:52:00

## Tool Information

Drill Pipe:	Length: 4267.00 ft	Diameter: 3.80 inches	Volume: 59.85 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 146.00 ft	Diameter: 2.25 inches	Volume: 0.72 bbl	Weight to Pull Loose: 76000.00 lb
			<u>Total Volume: 60.57 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	15.00 ft			String Weight: Initial 64000.00 lb
Depth to Top Packer:	4427.00 ft			Final 64000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	45.00 ft			
Tool Length:	74.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4399.00	
Shut In Tool	5.00			4404.00	
Hydraulic tool	5.00			4409.00	
Jars	5.00			4414.00	
Safety Joint	3.00			4417.00	
Packer	5.00			4422.00	29.00 Bottom Of Top Packer
Packer	5.00			4427.00	
Stubb	1.00			4428.00	
Recorder	0.00	6625	Inside	4428.00	
Recorder	0.00	8017	Outside	4428.00	
Perforations	8.00			4436.00	
Blank Spacing	33.00			4469.00	
Bullnose	3.00			4472.00	45.00 Bottom Packers & Anchor

**Total Tool Length: 74.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co., Inc.

**19-1s-36w Rawlins,KS**

250 N. Water STE 300  
Wichita, KS 67202

**Carolyn 'B' #1-19**

Job Ticket: 63330

**DST#: 4**

ATTN: Robert Hendrix

Test Start: 2017.07.18 @ 08:52:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 62.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.39 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 600.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
90.00	SOCM 96% <sub>m</sub> , 4% <sub>o</sub>	0.443

Total Length: 90.00 ft      Total Volume: 0.443 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

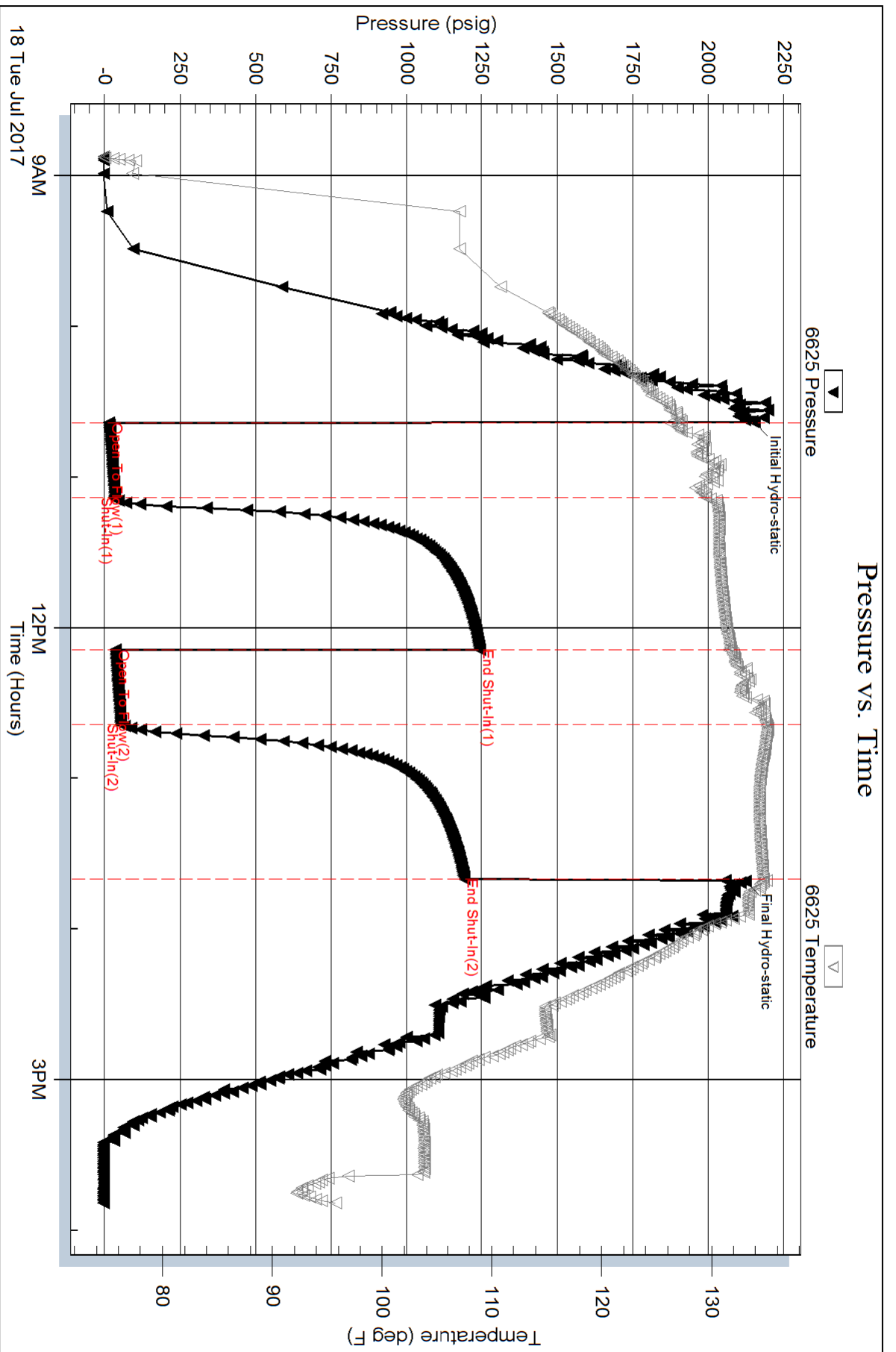
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



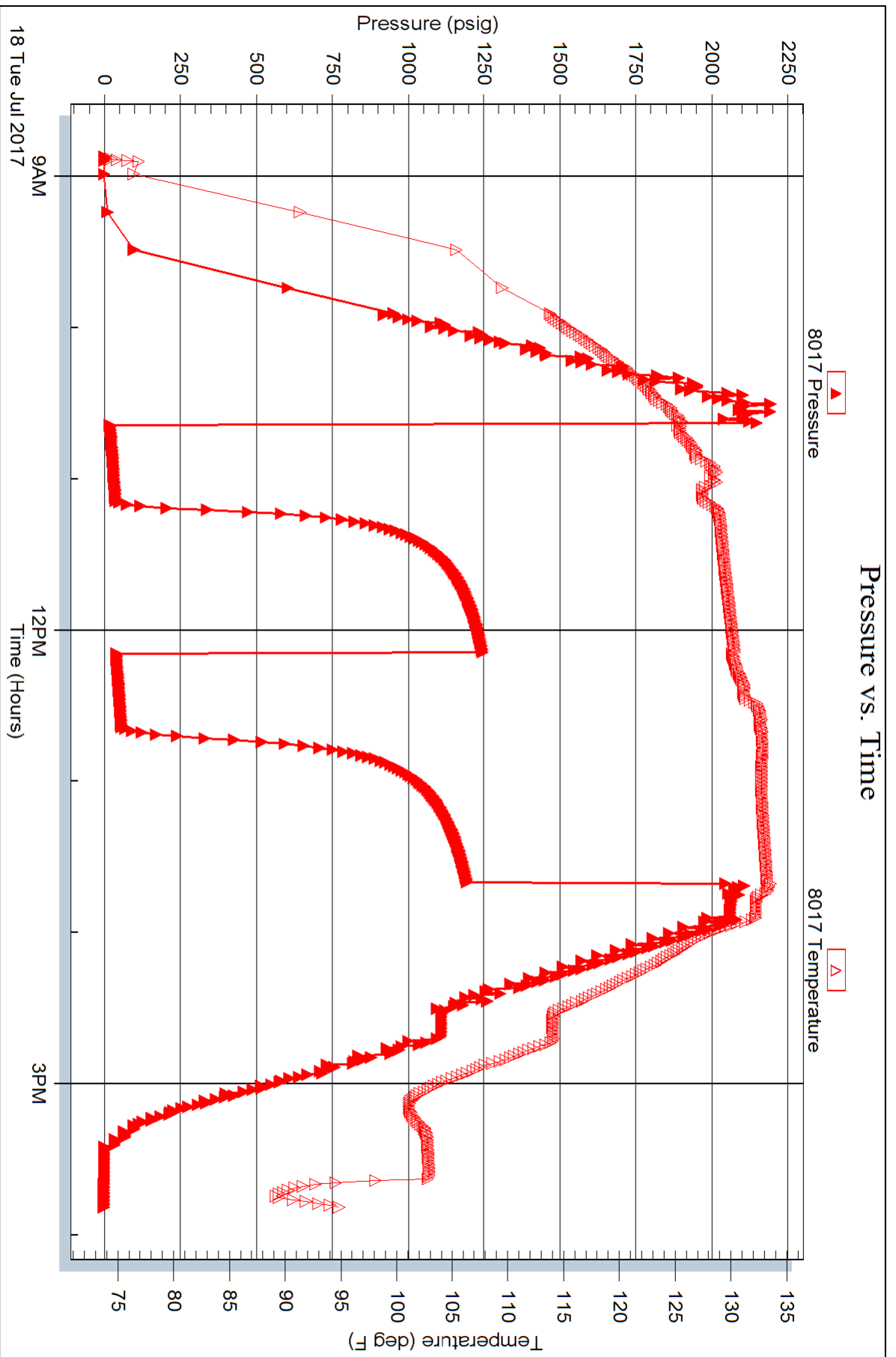


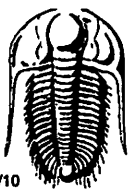
Serial #: 8017

Outside Murfin Drilling Co., Inc.

Carolyn 'B #1-19

DST Test Number: 4





# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 63327

Well Name & No. Carolyn 'B' #1-19 Test No. 1 Date 7-14-17  
 Company Murfin Drilling Co. Inc Elevation 3326 KB 3321 GL  
 Address 250 N. Water STE 300 Wichita KS 67202  
 Co. Rep / Geo. Robert Hendrix Rig Murfin #3  
 Location: Sec. 19 Twp. 1s Rge. 36w Co. Rawlins State KS

Interval Tested 3783 - 3832 Zone Tested Foraker  
 Anchor Length 49 Drill Pipe Run 3615 Mud Wt. 8.7  
 Top Packer Depth 3778 Drill Collars Run ~~146~~ 146 Vis 60  
 Bottom Packer Depth 3783 Wt. Pipe Run - WL 6.0  
 Total Depth 3832 Chlorides 600 ppm System LCM ~~600~~ 8

Blow Description IF: Weak surface blow, dead at 9 min.  
TST: No blow  
FF: No blow  
FSI: No blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>2</u>	<u>Mud</u>			<u>100</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

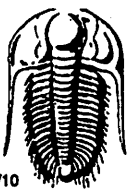
Rec Total 2 BHT 126 Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic 1831  Test 1050 T-On Location 17:10 7/14  
 (B) First Initial Flow 14  Jars 250 T-Started 19:13  
 (C) First Final Flow 14  Safety Joint 75 T-Open 21:03  
 (D) Initial Shut-In 245  Circ Sub \_\_\_\_\_ T-Pulled 00:05  
 (E) Second Initial Flow 14  Hourly Standby \_\_\_\_\_ T-Out 1:30 7/15  
 (F) Second Final Flow 15  Mileage 122 RT 91.50  
 (G) Final Shut-In 217  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1802  Straddle \_\_\_\_\_

Initial Open 30  Ruined Shale Packer \_\_\_\_\_  
 Initial Shut-In 60  Ruined Packer \_\_\_\_\_  
 Final Flow 30  Extra Copies \_\_\_\_\_  
 Final Shut-In 60  Extra Recorder \_\_\_\_\_ Sub Total 0  
 Day Standby \_\_\_\_\_ Total 1466.50  
 Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Sub Total 1466.50

Approved By \_\_\_\_\_ Our Representative James Winder

Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 63328

4/10

Well Name & No. Carolyn 'B' # 1-19 Test No. 2 Date 7-16-17  
 Company Murfin Drilling Co. Inc Elevation 3326 KB 3321 GL  
 Address 250 N. Water STE 300 Wichita, KS 67202  
 Co. Rep / Geo. Robert Hendrix Rig Murfin #3  
 Location: Sec. 19 Twp. 1S Rge. 36W Co. Rawlins State KS

Interval Tested 4222 - 4272 Zone Tested Lans. "A"  
 Anchor Length 50 Drill Pipe Run 4079 Mud Wt. 8.9  
 Top Packer Depth 4217 Drill Collars Run ~~476~~ 204 Vis 67  
 Bottom Packer Depth 4222 Wt. Pipe Run - WL 6.0  
 Total Depth 4272 Chlorides 600 ppm System LCM 6

Blow Description IF: 1/4" Blow at open, built to 2 1/2"  
ISI: No blowback  
FF: Blow started at 3 min., built to 2 1/4"  
FSI: No blowback

Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>SMCO</u>	<u>2</u>	<u>92</u>	<u>6</u>	<u>6</u>
<u>65</u>	<u>OCM</u>	<u>3</u>	<u>35</u>	<u>62</u>	<u>62</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 70 BHT 135 Gravity 33 API RW @ ° F Chlorides ppm

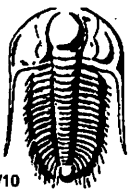
(A) Initial Hydrostatic 2075  Test 1150 T-On Location 8:50  
 (B) First Initial Flow 15  Jars 250 T-Started 10:07  
 (C) First Final Flow 31  Safety Joint 75 T-Open 11:51  
 (D) Initial Shut-In 1112  Circ Sub \_\_\_\_\_ T-Pulled 15:53  
 (E) Second Initial Flow 34  Hourly Standby \_\_\_\_\_ T-Out 17:45  
 (F) Second Final Flow 51  Mileage 122 RT 91.50  
 (G) Final Shut-In 1048  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 2071  Straddle \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  
 Day Standby \_\_\_\_\_  
 Accessibility \_\_\_\_\_

Comments \_\_\_\_\_  
 Ruined Shale Packer \_\_\_\_\_  
 Ruined Packer \_\_\_\_\_  
 Extra Copies \_\_\_\_\_  
 Sub Total 0  
 Total 1566.50  
 MP/DST Disc't \_\_\_\_\_

Initial Open 30  
 Initial Shut-In 60  
 Final Flow 60  
 Final Shut-In 90

Approved By [Signature] Our Representative James Warden  
 Sub Total 1566.50

TriLOBITE Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 63329

Well Name & No. Carolyn 'B' # 1-19 Test No. 3 Date 7-17-17  
 Company Murfin Drilling Co. Inc Elevation 3326 KB 3321 GL  
 Address 250 N. Water STE 300 Wichita KS 67202  
 Co. Rep / Geo. Robert Hendrix Rig Murfin #3  
 Location: Sec. 19 Twp. 1s Rge. 36w Co. Rawlins State KS

Interval Tested 4278 - 4330 Zone Tested Lans "D"  
 Anchor Length 52 Drill Pipe Run 4111 Mud Wt. 9.1  
 Top Packer Depth 4273 Drill Collars Run 204 Vis 60  
 Bottom Packer Depth 4278 Wt. Pipe Run - WL 6.0  
 Total Depth 4330 Chlorides 600 ppm System LCM 8

Blow Description IF: 1/4" Blow at open, built to 3 1/2"  
ISI: No blowback  
FF: Blow started at 2 min. ~~400~~ built to 4 1/2"  
FSI: Weak surface blowback, didn't build

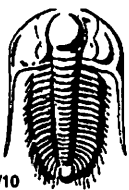
Rec	Feet of	%gas	%oil	%water	%mud
<u>20</u>	<u>CGO</u>	<u>50</u>	<u>50</u>		
<u>58</u>	<u>CGO</u>	<u>12</u>	<u>88</u>		
<u>58</u>	<u><del>CGO</del> MO</u>	<u>2</u>	<u>50</u>		<u>48</u>
	<u>GIP = 40' +</u>				
Rec Total	<u>136</u>	BHT	<u>134</u>	Gravity	<u>21.8</u>
				API RW	@
					F Chlorides

(A) Initial Hydrostatic 2140  Test 1150 T-On Location 7:00  
 (B) First Initial Flow 16  Jars 250 T-Started 4:34  
 (C) First Final Flow 34  Safety Joint 75 T-Open 6:15  
 (D) Initial Shut-In 962  Circ Sub \_\_\_\_\_ T-Pulled 10:16  
 (E) Second Initial Flow 38  Hourly Standby \_\_\_\_\_ T-Out 12:30  
 (F) Second Final Flow 62  Mileage 122 RT 91.50 Comments \_\_\_\_\_  
 (G) Final Shut-In 949  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 2117  Straddle \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  
 Day Standby \_\_\_\_\_  
 Accessibility \_\_\_\_\_  
 Sub Total 1566.50

Initial Open 30  
 Initial Shut-In 60  
 Final Flow 60  
 Final Shut-In 90

Ruined Shale Packer \_\_\_\_\_  
 Ruined Packer \_\_\_\_\_  
 Extra Copies \_\_\_\_\_  
 Sub Total 0  
 Total 1566.50  
 MP/DST Disc't \_\_\_\_\_

Approved By [Signature] Our Representative James Winder  
 Trilobite Testing Inc. shall not be liable for damaged or any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 63330

Well Name & No. Carolyn 'B' #1-19 Test No. 4 Date 7-18-19  
 Company Murfin Drilling Co Inc Elevation 3326 KB 3321 GL  
 Address 250 N. Water STE 300 Wichita, KS 67202  
 Co. Rep / Geo. Robert Hendrix Rig Murfin #3  
 Location: Sec. 19 Twp. 1s Rge. 36w Co. Rawlins State KS

Interval Tested 4427 - 4472 Zone Tested Lans. "J"  
 Anchor Length 45 Drill Pipe Run 4267 Mud Wt. 9.0  
 Top Packer Depth 4422 Drill Collars Run 204 Vis 62  
 Bottom Packer Depth 4427 Wt. Pipe Run - WL 5.6  
 Total Depth 4472 Chlorides 600 ppm System LCM 7

Blow Description IF: Blow built to 1 1/2"  
ISI: No blowback  
FF: No blow  
FSI: No blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>90</u>	<u>SOcm</u>	<u>4</u>		<u>96</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 90 BHT 135 Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic 2153  
 (B) First Initial Flow 15  
 (C) First Final Flow 35  
 (D) Initial Shut-In 1244  
 (E) Second Initial Flow 37  
 (F) Second Final Flow 54  
 (G) Final Shut-In 1193  
 (H) Final Hydrostatic 2124

Test 1150  
 Jars 250  
 Safety Joint 75  
 Circ Sub \_\_\_\_\_  
 Hourly Standby \_\_\_\_\_  
 Mileage 122 RTX2 183  
 Sampler \_\_\_\_\_  
 Straddle \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  
 Day Standby ?  
 Accessibility \_\_\_\_\_  
 Sub Total 1658

T-On Location 8:10  
 T-Started 8:52  
 T-Open 10:38  
 T-Pulled 13:40  
 T-Out 15:45  
 Comments tools loaded 3:45  
7-20-17  
 Ruined Shale Packer \_\_\_\_\_  
 Ruined Packer \_\_\_\_\_  
 Extra Copies \_\_\_\_\_  
 Sub Total 0  
 Total 1658  
 MP/DST Disc't \_\_\_\_\_

Initial Open 30  
 Initial Shut-In 60  
 Final Flow 30  
 Final Shut-In 60

Approved By [Signature]

Our Representative James Winder

TriLOBITE Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



**TREATMENT REPORT**



**HURRICANE SERVICES INC**

<b>Customer:</b> Murfin Drilling Company Inc.	<b>Date:</b> 7/20/2017	<b>Ticket No.:</b> 100774
<b>Field Rep:</b> Nathan Witt		
<b>Address:</b>		
<b>City, State:</b>		
<b>County, Zip:</b>		

<b>Field Order No.:</b> 100774	<b>Open Hole:</b>	<b>Perf Depths (ft)</b>	<b>Perfs</b>
<b>Well Name:</b> Carolyn B # 1-19	<b>Casing Depth:</b> 4820'		
<b>Location:</b> McDonald	<b>Casing Size:</b> 5.5 15.5 Lb		
<b>Formation:</b>	<b>Tubing Depth:</b>		
<b>Type of Service:</b> Longstring	<b>Tubing Size:</b>		
<b>Well Type:</b> Oil	<b>Liner Depth:</b>		
<b>Age of Well:</b> New	<b>Liner Size:</b>		
<b>Packer Type:</b>	<b>Liner Top:</b>		
<b>Packer Depth:</b>	<b>Liner Bottom:</b>		
<b>Treatment Via:</b> Casing	<b>Total Depth:</b> 4818'		
		<b>Total Perfs</b>	<b>0</b>

TIME	INJECTION RATE		PRESSURE		REMARKS	PROP (lbs)	HCL (gls)	FLUID (bbls)
	FLUID	N2/CO2	STP	ANNULUS				
12:00 PM					Called Out			
6:30 PM					On Location With Float Equipment			
					Run 116 Jt's 5.5 15.5 Lb			
					TD= 4820' TP= 4818' SJ= 18.81 AFU Float Shoe & L			
					Turbolizers on Jt's 1-2-3-4-5-6-7-8-9-10-11-12-13-34-44			
					Cement Baskets Jt's 11-35-45- Scratcher 9-13-14-25			
7:00 PM					Trucks On Location			
8:00 PM					Start Casing Circulate 1/2 way Jt58			
9:45 PM					Casing On Bottom Drop Ball			
10:00 PM					Hook Up To Casing Break Circulation WRig Rotate 1 Hr			
11:00 PM					Start Pumping Preflushes			
	4.0		250.0		5 BBL's H2O			5.00
	4.0		150.0		12 BBL's Mud Flush			12.00
	4.0		150.0		5 BBL's H2O			5.00
11:05 PM	3.0		190.0		Plug Rat & Mouse Holes 50 Sacks Lead			
11:15 PM	4.5		320.0		Start Mix & Pump Lead @ 12 Lb/Gal Yield 2.61			116.00
11:41 PM	4.5		220.0		Start Mix & Pump Tail @ 14.8 Lb/Gal Yield 1.50			53.43
12:00 AM					Shut Down Clear Pump & Lines Drop LD Plug			15.00
<b>TOTAL:</b>						-	-	488.43

**SUMMARY**

Max Fl. Rate	Avg Fl. Rate	Max PSI	Avg PSI
6.5	4.2	2,000.0	578.0

**PRODUCTS USED**

300 Sacks H-Con 200 Sacks H-Long

Treater: Todd Seba

Customer: Nathan Witt



